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1959

**United States
Department of
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**UNITED STATES
STANDARDS**
for grades of
CANNED BLUEBERRIES



EFFECTIVE AUGUST 19, 1959

Second Issue
As Amended

These standards supersede the standards
which have been in effect since
August 1, 1946

This is the second issue of the United States Standards for Grades of Canned Blueberries. These standards are issued by the Department after careful consideration of all data and views submitted.

These standards were published in the Federal Register of February 17, 1951 (16 F.R. 1663) and recodified in the Federal Register of December 9, 1953 (18 F.R. 7942) -- Section 52.592 was amended (22 F.R. 3535) to become effective July 1, 1957.

As in the case of other standards for processed fruits and vegetables, these standards are designed to serve as a convenient basis for sales, for establishing quality control programs, and for determining loan values. They will also serve as a basis for the inspection of this commodity by Federal inspection service, which is available for the inspection of other processed products as well.

The Department welcomes suggestions which might aid in improving these standards in future revisions. Comments may be submitted to, and copies of these standards obtained from:

Chief, Processed Products Standardization and Inspection Branch
Fruit and Vegetable Division, C&MS
U.S. Department of Agriculture
Washington, D. C. 20250

Reprinted December 1970
(Includes 1959 amendment)

UNITED STATES STANDARDS FOR GRADES OF

CANNED BLUEBERRIES ¹

Effective March 20, 1951

and

As Amended, Aug. 19, 1959

PRODUCT DESCRIPTION, TYPES, AND GRADES

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PRODUCT DESCRIPTION, TYPES, AND GRADES

§ 52.581 *Product description.* Canned blueberries are prepared from the prop-

erly ripened fresh fruit of the blueberry bush (Genus *Vaccinium*), including species or varieties often called "huckleberries", but not of the Genus *Gaylussacia*; are stemmed and washed; are packed with or without the addition of water or sweetening ingredients; and are sufficiently processed by heat to assure preservation of the product in hermetically sealed containers.

§ 52.582 *Types of canned blueberries.*

(a) Native (or wild) type.

(b) Cultivated type.

§ 52.583 *Grades of canned blueberries.*

(a) "U. S. Grade A" or "U. S. Fancy" is the quality of canned blueberries that possess similar varietal characteristics; that possess a very good color; that are practically free from defects; that possess a good character; that possess a normal flavor and odor; and that score not less than 90 points when scored in accordance with the scoring system outlined in this subpart.

(b) "U. S. Grade B" or "U. S. Choice" is the quality of canned blueberries that possess similar varietal characteristics; that possess a good color; that are reasonably free from defects; that possess a reasonably good character; that possess a normal flavor and odor; and that score not less than 80 points when

¹ The requirements of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

scored in accordance with the scoring system outlined in this subpart.

(c) "U. S. Grade C" or "U. S. Standard" is the quality of canned blueberries that possess similar varietal characteristics; that possess a fairly good color; that are fairly free from defects; that possess a fairly good character; that possess a normal flavor and odor; and that score not less than 70 points when scored in accordance with the scoring system outlined in this subpart.

(d) "U. S. Grade D" or "Substandard" is the quality of canned blueberries that fail to meet the requirements of U. S. Grade C or U. S. Standard.

LIQUID MEDIA, FILL OF CONTAINER, AND DRAINED WEIGHTS

§ 52.584 *Recommended designations of liquid media and Brix measurements.* "Cut-out" requirements for liquid media are not incorporated in the grades of the finished product since sirup or any other liquid medium, as such, is not a factor of quality for the purpose of these grades.

(a) It is recommended that canned blueberries have the following indicated "cut-out" Brix measurement for the respective designation, which designations include, but are not limited to, the following:

<i>Designations</i>	<i>Brix measurement</i>
Extra heavy sirup-----	25° or more, but not more than 35°.
Heavy sirup-----	20° or more, but less than 25°.
Light sirup-----	15° or more, but less than 20°.
Slightly sweetened water.	Less than 15° Brix.
Water pack packed in water).	-----

(b) "Brix" means the degrees Brix of the liquid from canned blueberries when tested with a Brix hydrometer calibrated at 20 degrees C. (68 degrees F.). If the liquid is tested at a temperature other than 20 degrees C. (68 degrees F.) the applicable temperature correction shall be made to the reading of the scale as prescribed in the "Official Methods of Analysis of the Association of Official Agricultural Chemists." The degrees Brix of the liquid from canned blueber-

ries may be determined by any other method which gives equivalent results.

§ 52.585 *Recommended fill of container.* The recommended fill of container is not incorporated in the grades of the finished product since fill of container, as such, is not a factor of quality for the purpose of these grades. It is recommended that each container of canned blueberries be filled with blueberries as full as practicable without impairment of quality and that the product and packing medium occupy not less than 90 percent of the volume of the container.

§ 52.586 *Recommended minimum drained weight.* The minimum drained weight recommendations are not incorporated in the grades of the finished product since drained weight, as such, is not a factor of quality for the purpose of these grades. The drained weight of canned blueberries is determined by emptying the contents of the container upon a United States Standard No. 8 circular sieve of proper diameter containing 8 meshes to the inch (0.0937-inch, $\pm 3\%$, square openings) so as to distribute the product evenly, inclining the sieve slightly to facilitate drainage, and allowing to drain for two minutes. The drained weight (or drained blueberries) is the weight of the sieve and the blueberries less the weight of the dry sieve. A sieve 8 inches in diameter is used for the equivalent of No. 3 size cans (404 x 414) and smaller, and a sieve 12 inches in diameter is used for containers larger than the equivalent of the No. 3 size can.

TABLE I—RECOMMENDED MINIMUM DRAINED WEIGHTS FOR CANNED BLUEBERRIES

Container designation	Container size (over-all dimensions)		Recommended minimum drained weights
	Width	Height	
	<i>Inches</i>	<i>Inches</i>	<i>Ounces</i>
300 x 407-----	3	4 $\frac{1}{16}$	7.5
No. 2-----	3 $\frac{1}{16}$	4 $\frac{1}{16}$	10.0
No. 10-----	6 $\frac{1}{16}$	7	55.0

As amended, Aug. 19, 1959

FACTORS OF QUALITY

§ 52.587 *Ascertaining the grade.* (a) The grade of canned blueberries may be ascertained by considering, in conjunction with the requirements of the respective grade, the respective ratings for the factors of color, absence of defects, and character.

(b) The relative importance of each factor which is scored is expressed numerically on the scale of 100. The maximum number of points that may be given such factors are:

Factors:	Points
Color -----	20
Absence of defects -----	40
Character -----	40
<hr/>	
Total score -----	100

(c) "Normal flavor and odor" means that the product is free from objectionable odors and objectionable flavors of any kind.

§ 52.588 *Ascertaining the rating for the factors which are scored.* The essential variations within each factor which is scored are so described that the value may be ascertained for such factors and expressed numerically. The numerical range within each factor which is scored is inclusive (for example, "18 to 20 points" means 18, 19, or 20 points).

§ 52.589 *Color*—(a) (A) *classification.* Canned blueberries that possess a very good color may be given a score of 18 to 20 points. "Very good color" means a practically uniform, bright, dark blue-purple color typical of blueberries which had been properly processed from well-matured blueberries.

(b) (B) *classification.* If the canned blueberries possess a good color, a score of 16 or 17 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade B or U. S. Choice, regardless of the total score for the product (this is a limiting rule). "Good color" means a reasonably uniform, dark blue-purple color typical of blueberries which had been properly processed from reasonably well-matured blueberries.

(c) (C) *classification.* If the canned blueberries possess a fairly good color, a score of 14 or 15 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly good color" means a blue-purple color typical of blueberries which had been properly processed and which are not off color for any reason.

(d) (SStd) *classification.* Canned blueberries that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 13 points and shall not be graded above U. S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.590 *Absence of defects*—(a) *General.* The factor of absence of defects refers to the degree of freedom from harmless extraneous material (such as leaves and large stems); from clusters; from cap stems; from undeveloped berries, or edible berries other than blueberries; and from berries damaged by insect, pathological, or any other injury.

(1) "Cap stems" are small stems which attach berries to the branch and means single cap stems or joined double cap stems with or without berries attached.

(2) A "cluster" means three or more joined cap stems with or without berries attached.

(3) "Undeveloped berries" are mummified berries with wrinkled or tough skins or which may be pathologically defective.

(b) (A) *classification.* Canned blueberries that are practically free from defects may be given a score of 36 to 40 points. "Practically free from defects" means that the canned blueberries are reasonably free from cap stems and for each 20 ounces of net weight, or the equivalent thereof, there may be present:

(1) Not more than a total of 2 whole leaves or large stems, provided such whole leaves and any other portions of

leafy material do not exceed $\frac{1}{2}$ square inch;

(2) Not more than 5 berries that are undeveloped or edible berries other than blueberries or berries that are damaged; and

(3) In native (or wild) type, not more than an average of 12 clusters in all containers comprising the sample, provided there are no more than 16 clusters in any single container; or

(4) In cultivated type, not more than 4 clusters.

(c) *(B) classification.* If the canned blueberries are reasonably free from defects, a score of 32 to 35 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade B or U. S. Choice, regardless of the total score for the product (this is a limiting rule). "Reasonably free from defects" means that the canned blueberries are reasonably free from cap stems and for each 20 ounces of net weight, or the equivalent thereof, there may be present:

(1) Not more than a total of 4 whole leaves or large stems, provided such whole leaves and any other portions of leafy material do not exceed $\frac{3}{4}$ square inch;

(2) Not more than 8 berries that are undeveloped or edible berries other than blueberries or berries that are damaged; and

(3) In Native (or wild) type, not more than an average of 20 clusters in all containers comprising the sample, provided there are no more than 28 clusters in any single container; or

(4) In Cultivated type, not more than 8 clusters.

(d) *(C) classification.* If the canned blueberries are fairly free from defects, a score of 28 to 31 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly free from defects" means that the canned blueberries are fairly free from cap stems and for each 20 ounces of net weight, or

the equivalent thereof, there may be present:

(1) Not more than a total of 6 whole leaves or large stems, provided such whole leaves and any other portions of leafy material do not exceed 1 square inch;

(2) Not more than 10 berries that are undeveloped or edible berries other than blueberries or berries that are damaged; and

(3) In Native (or wild) type, not more than an average of 28 clusters in all containers comprising the sample, provided there are no more than 40 clusters in any single container; or

(4) In Cultivated type, not more than 12 clusters.

(e) *(SStd) classification.* Canned blueberries that fail to meet the requirements of paragraph (d) of this section may be given a score of 0 to 27 points and shall not be graded above U. S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

§ 52.591 *Character*—(a) *(A) classification.* Canned blueberries that possess a good character may be given a score of 36 to 40 points. "Good character" means that the blueberries are reasonably firm, reasonably fleshy, practically whole, and practically intact with not more than 10 percent by weight of the drained blueberries that may be crushed, mushy, or broken berries.

(b) *(B) classification.* If the canned blueberries possess a reasonably good character, a score of 32 to 35 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade B or U. S. Choice, regardless of the total score for the product (this is a limiting rule). "Reasonably good character" means that the blueberries may be lacking in firmness and fleshy texture but are reasonably whole and reasonably intact with not more than 15 percent by weight of the drained blueberries that may be crushed, mushy, or broken berries.

(c) (C) *classification*. If the canned blueberries possess a fairly good character, a score of 28 to 31 points may be given. Canned blueberries that fall into this classification shall not be graded above U. S. Grade C or U. S. Standard, regardless of the total score for the product (this is a limiting rule). "Fairly good character" means that the blueberries are fairly whole and fairly intact with not more than 30 percent by weight of the drained blueberries that may be crushed, mushy, or broken berries.

(d) (SStd) *classification*. Canned blueberries that fail to meet the requirements of paragraph (c) of this section may be given a score of 0 to 27 points and shall not be graded above U. S. Grade D or Substandard, regardless of the total score for the product (this is a limiting rule).

LOT INSPECTION AND CERTIFICATION

§ 52.592 *Ascertaining the grade of a lot*. The grade of a lot of canned blueberries covered by these standards is determined by the procedures set forth in the Regulations Governing Inspection and Certification of Processed Fruits and Vegetables, Processed Products Thereof, and Certain Other Processed Food Products (§§ 52.1 through 52.87, 22 F. R. 3535).

SCORE SHEET

§ 52.593 *Score sheet for canned blueberries.*

Size and kind of container.....		
Container mark or identification.....		
Label.....		
Net weight (ounces).....		
Vacuum (inches).....		
Drained weight (ounces).....		
Brix measurement.....		
Sirup designation (extra heavy, heavy, etc.).....		
Type.....		
Factors	Score points	
Color.....	20	{ (A) 18-20 (B) ¹ 16-17 (C) ¹ 14-15 (D) ¹ 0-13
Absence of defects.....	40	{ (A) 36-40 (B) ¹ 32-35 (C) ¹ 28-31 (D) ¹ 0-27
Character.....	40	{ (A) 36-40 (B) ¹ 32-35 (C) ¹ 28-31 (D) ¹ 0-27
Total score.....	100	
Flavor and odor.....		
Grade.....		

¹ Indicates limiting rule.

*Recodified in the Federal Register of December 9, 1953 (18 F.R. 7942) --
Section 52.592 amended May 22, 1957 (22 F.R. 3535)*

Section 52.586, Table I, amended August 19, 1959 (24 F.R. 6709)

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